[0022] Fig. 3 shows a schematic cross-section of blanket cylinder 20 and printing sock 21 according to the present invention. Rigid cylinder 11 is rotatably supported by bearings 115. Bladders 12 are ring-shaped and encircle the circumference of rigid cylinder 11. Cylinder covering 13 is attached at its axial ends to rigid cylinder 11, for example by riveting. Fluid lines 14 connect bladders 12 to fluid supply regulation units 15. A rotary union 16 is used to enable cylinder 11 to rotate without interrupting the flow of fluid. Thus, fluid pressure in the bladders 12 can be adjusted while the printing press is running and while the blanket cylinder 20 is rotating. In this embodiment each of the three bladders A, B, and C are individually connected to three different fluid supply regulation units, which can individually regulate the pressure of fluid in the bladders. Thus, the working pressure in each zone (as defined by the width of each bladder) can be adjusted during operation based on print quality requirements and press conditions.

[0023] During operation, waste heat is generated in the nip where the print layer of the print sock comes into contact with the web. Much of this heat can be removed by the web itself. However, in the case of a narrow web, heat generated in end regions of the blanket cylinder where there is no web could be removed by circulating the fluid within the appropriate bladders and cooling it in a heat exchanger 100. For example heat exchanger 100 may be connected to (or part of) the fluid supply regulation unit 15, or otherwise connected to fluid lines 14. A temperature feedback loop could be set up to help ensure a constant temperature across the entire nip.

IN THE CLAIMS

Please amend the following claims:

1. (Amended) A printing unit comprising:

a rigid cylinder rotatable about an axis of rotation;

a plurality of inflatable bladders disposed on a circumferential surface of the cylinder;